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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,823	03/31/2004	Rajib Datta	128502-1/YOD GERD:0115	5080
41838 7590 10/12/2007 GENERAL ELECTRIC COMPANY (PCPI) C/O FLETCHER YODER P. O. BOX 692289 HOUSTON, TX 77269-2289			EXAMINER KAPLAN, HAL IRA	
			ART UNIT 2836	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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<b>Office Action Summary</b>	Application No. 10/813,823	Applicant(s) DATTA, RAJIB	
	Examiner Hal I. Kaplan	Art Unit 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 June 2007.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-10,12-19,21-25 and 27-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,9,10,12,18,19,21-25 and 27-31 is/are rejected.
- 7) ☒ Claim(s) 6-8 and 13-17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Objections*

1. Claims 1, 9, and 18 are objected to because of the following informalities: Claim 1, lines 5-6, "a first mode" should be "the normal mode". Claim 1, line 9, "the normal mode" lacks proper antecedent basis. Claims 9 and 18 recite a "zigzag" pattern. The specification does not define a "zigzag" pattern. For examination purposes, it has been assumed that a "zigzag" pattern may be any alternating repeating pattern. Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

2. The indicated allowability of claims 1, 12, 15, 18, 19, 24, and 26 is withdrawn in view of the newly discovered reference(s) to Magid. Rejections based on the newly cited reference(s) follow.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1, 3-5, 9, 10, 19, 30, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over the US patent of Genuit et al. (3,846,695) in view of the US patent of Magid (5,001,623).

As to claims 1, 30, and 31, Genuit, drawn to a series-parallel dual switching regulator for use with a variety of line voltages, discloses a power system for supplying power to a load, comprising: a converter system comprising a first converter (13a) and a second converter (13b), wherein the converter system is configured for operating in a first mode and a second mode; wherein the first converter (13a) and the second converter (13b) are configured to be coupled in series during the first mode, and in parallel when operating in the second mode (see column 7, lines 3-37; column 8, lines 34-67; and Figure 4). Genuit does not disclose the claimed fault winding. Magid discloses a transformer (20) having a primary winding comprising a normal winding (22) and a fault winding (24), and wherein the normal winding (22) is coupled to the input during a first mode and the normal (22) and fault (24) windings are coupled to the input during a second mode (see column 4, lines 51-60; column 5, lines 15-23; and the Figure). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have selectively coupled a transformer with normal and fault windings to the system of Genuit, because the transformer of Magid works with any power source, and would provide protection against overvoltage conditions.

As to claim 3, Magid discloses a switching circuit (42-48) coupled to the transformer (20) and configured to couple the fault winding (24) to the input.

As to claim 4, Magid discloses a sensing circuit (34,36) coupled to the switching circuit (42-48) and configured to sense an electrical parameter (voltage) of the transformer (see column 5, lines 6-28 and the Figure).

As to claim 5, Magid discloses control circuitry (16) coupled to the sensing circuit (34,36) and the switching circuit (42-48), and configured to change a state of the switching circuit (42-48) based on the sensed parameter (voltage) (see column 5, lines 6-28 and the Figure).

As to claim 9, the primary winding (22,24) of Magid is wound in a zigzag (helical) pattern (see the Figure).

As to claim 10, the first converter (13a) and the second converter (13b) of Genuit each comprise a rating of approximately half a nominal power rating of the power system (see column 7, lines 33-37).

As to claim 19, Genuit discloses sensing an electrical parameter (input voltage), and coupling a first converter (13a) and a second converter (13b) in series during a normal mode and in parallel during a second mode (see column 7, lines 38-42).

6. Claims 12 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Genuit in view of Magid, and further in view of the US patent of Adams (6,486,640).

As to claims 12 and 18, Genuit in view of Magid disclose all of the claimed features, as set forth above, except for the claimed generator. Adams discloses a generator (G) configured to generate a variable frequency output power (see column 3, lines 14-17). It would have been obvious to one of ordinary skill in the art, at the time of

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the invention, to have used a variable frequency generator as the AC power source in the circuit of Genuit in view of Magid, because the circuit of Genuit in view of Magid can be used with any power source.

7. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Genuit in view of Magid as applied to claim 19 above, and further in view of the US patent of Kammeter (5,343,080).

As to claim 21, Genuit in view of Magid disclose all of the claimed features, as set forth above, except for (a) the load being a transformer, and (b) canceling harmonic currents in the output of the transformer.

Kammeter, drawn to a harmonic cancellation system, discloses a system comprising a transformer (1) and circuitry for canceling harmonic currents in the output of the transformer (1) (see column 2, lines 41-43; column 5, lines 4-9; and Figure 1). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have used the regulator system of Genuit to supply power to the system of Kammeter, because the system of Kammeter is capable of being connected an any power source, including a regulator (see column 2, lines 59-65).

8. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Genuit in view of Magid and Kammeter as applied to claim 21 above, and further in view of the US patent of Weeber et al. (6,897,577).

As to claim 22, Genuit in view of Magid and Kammeter disclose all of the claimed features, as set forth above, except for the claimed wind turbine. Weeber discloses providing a torque for controlled motion of a prime mover (34) in a wind turbine (see

column 2, lines 57-59 and Figure 1). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have used the system of Genuit in view of Magid and Kammeter to provide a torque for controlled motion of a prime mover in a wind turbine, because the system of Genuit in view of Magid and Kammeter can be used with any suitable load.

9. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Genuit in view of Magid and Kammeter as applied to claim 21 above, and further in view of the US patent of Frutschi et al. (6,945,052).

As to claim 23, Genuit in view of Magid and Kammeter disclose all of the claimed features, as set forth above, except for the claimed gas turbine. Frutschi discloses providing a power for a controlled start-up of a gas turbine (3) (see column 4, lines 46-57 and Figure 1). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have used the system of Genuit in view of Magid and Kammeter to provide a power for a controlled start-up of a gas turbine, because the system of Genuit in view of Magid and Kammeter can be used with any suitable load.

10. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Genuit in view of Kammeter and Frutschi.

As to claim 24, Genuit discloses applying power to a load via first and second converters (13a,13b) electrically coupled in series with one another; sensing an electrical parameter (input voltage); generating a control signal based on the sensed electrical parameter (input voltage); and applying the control signal to a switching circuit (4a,4b,8a-c,9b,9c) configured to switch the first and second converters (13a,13b) to an

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electrically parallel configuration, as set forth above. Genuit does not disclose (a) the load being a transformer, (b) canceling harmonic currents in the output of the transformer, or (c) a gas turbine.

Kammeter, drawn to a harmonic cancellation system, discloses a system comprising a transformer (1) and circuitry for canceling harmonic currents in the output of the transformer (1) (see column 2, lines 41-43; column 5, lines 4-9; and Figure 1). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have used the regulator system of Genuit to supply power to the system of Kammeter, because the system of Kammeter is capable of being connected an any power source, including a regulator (see column 2, lines 59-65). Kammeter does not disclose a gas turbine.

Frutschi discloses providing a power for a controlled start-up of a gas turbine (3) (see column 4, lines 46-57 and Figure 1). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have used the system of Genuit in view of Kammeter to provide a power for a controlled start-up of a gas turbine, because the system of Genuit in view of Kammeter can be used with any suitable load.

11. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Genuit in view of Kammeter and Frutschi as applied to claim 24 above, and further in view of Weeber.

As to claim 25, Genuit in view of Kammeter and Frutschi disclose all of the claimed features, as set forth above, except for the claimed wind turbine. Weeber discloses providing a torque for controlled motion of a prime mover (34) in a wind



turbine (see column 2, lines 57-59 and Figure 1). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have used the system of Genuit in view of Kammeter and Frutschi to provide a torque for controlled motion of a prime mover in a wind turbine, because the system of Genuit in view of Kammeter and Frutschi can be used with any suitable load.

12. Claims 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Genuit in view of Magid and Frutschi.

As to claims 27-29, Genuit in view of Magid disclose all of the claimed features, as set forth above, except for the claimed gas turbine. Frutschi discloses providing a power for a controlled start-up of a gas turbine (3) (see column 4, lines 46-57 and Figure 1). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to have used the system of Genuit in view of Magid to provide a power for a controlled start-up of a gas turbine, because the system of Genuit in view of Magid can be used with any suitable load.

***Allowable Subject Matter***

13. Claims 6-8 and 13-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. The following is a statement of reasons for the indication of allowable subject matter:

Claims 6-7 and 16-17 contain allowable subject matter because none of the prior art of record discloses or suggests the parameter comprising a voltage across the fault

winding of the transformer, or a current across a secondary winding, in combination with the remaining claimed features.

Claims 8 and 13-15 contain allowable subject matter because none of the prior art of record discloses or suggests a third converter coupled to the fault winding and configured for canceling harmonic currents at an output of the transformer, in combination with the remaining claimed features.

### ***Response to Arguments***

15. Applicant's arguments, see Remarks, filed June 27, 2007, with respect to the objections and rejections have been fully considered and are persuasive, except as set forth above. The objections and rejections have been withdrawn, except as set forth above.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hal I. Kaplan whose telephone number is 571-272-8587. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on 571-272-2084. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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ROBERT L. DEBERADINIS  
PRIMARY EXAMINER